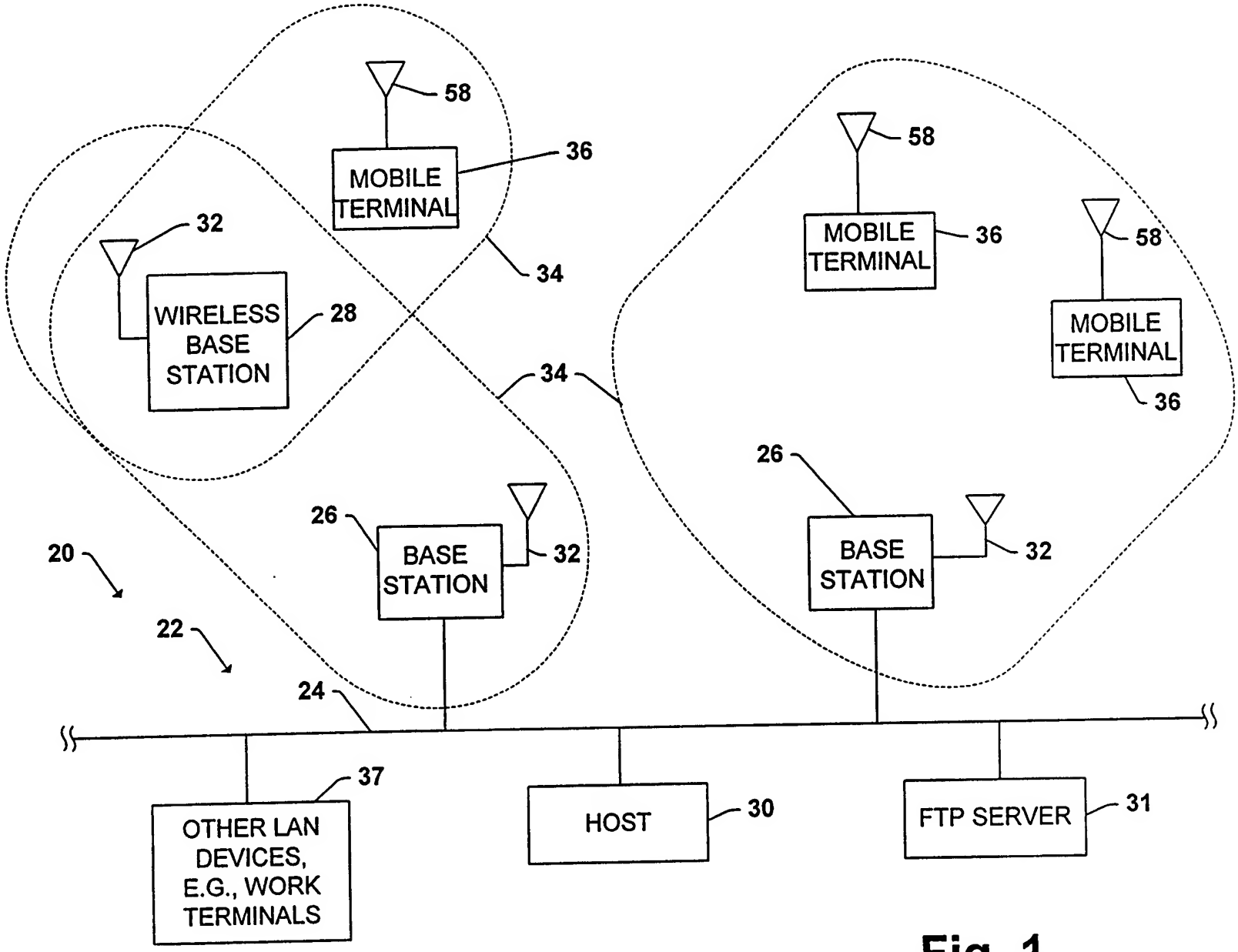

58
MOBILE TERMINAL
36
32
WIRELESS BASE STATION
28
34
58
MOBILE TERMINAL
36
58
MOBILE TERMINAL
36
34
26
BASE STATION
32
26
BASE STATION
32
20
22
24
37
OTHER LAN DEVICES, E.G., WORK TERMINALS
HOST
30
FTP SERVER
31

Fig. 1

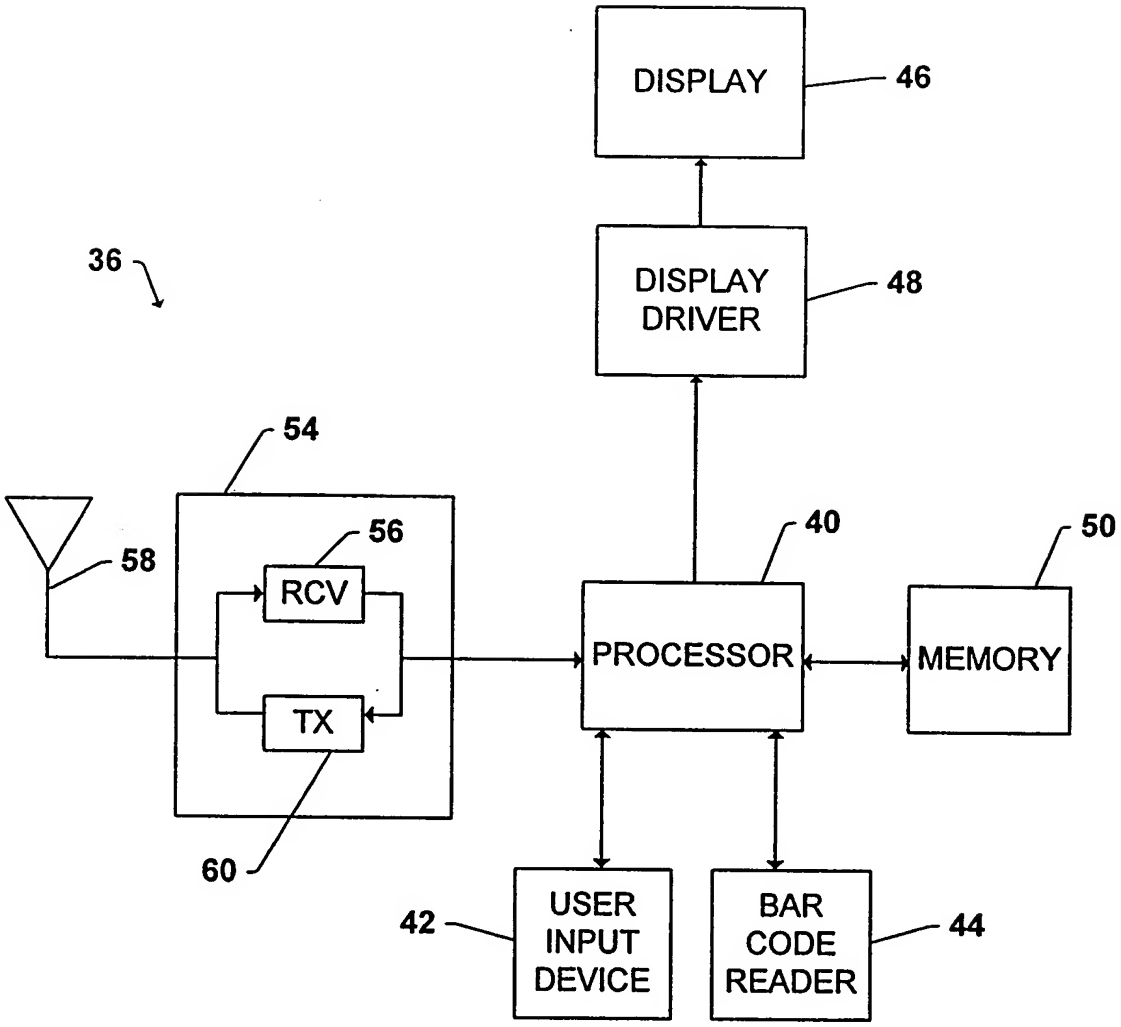

DISPLAY
46
DISPLAY DRIVER
48
36
54
56
58
RCV
TX
60
40
50
PROCESSOR
MEMORY
42
USER INPUT DEVICE
BAR CODE READER
44

Fig. 2

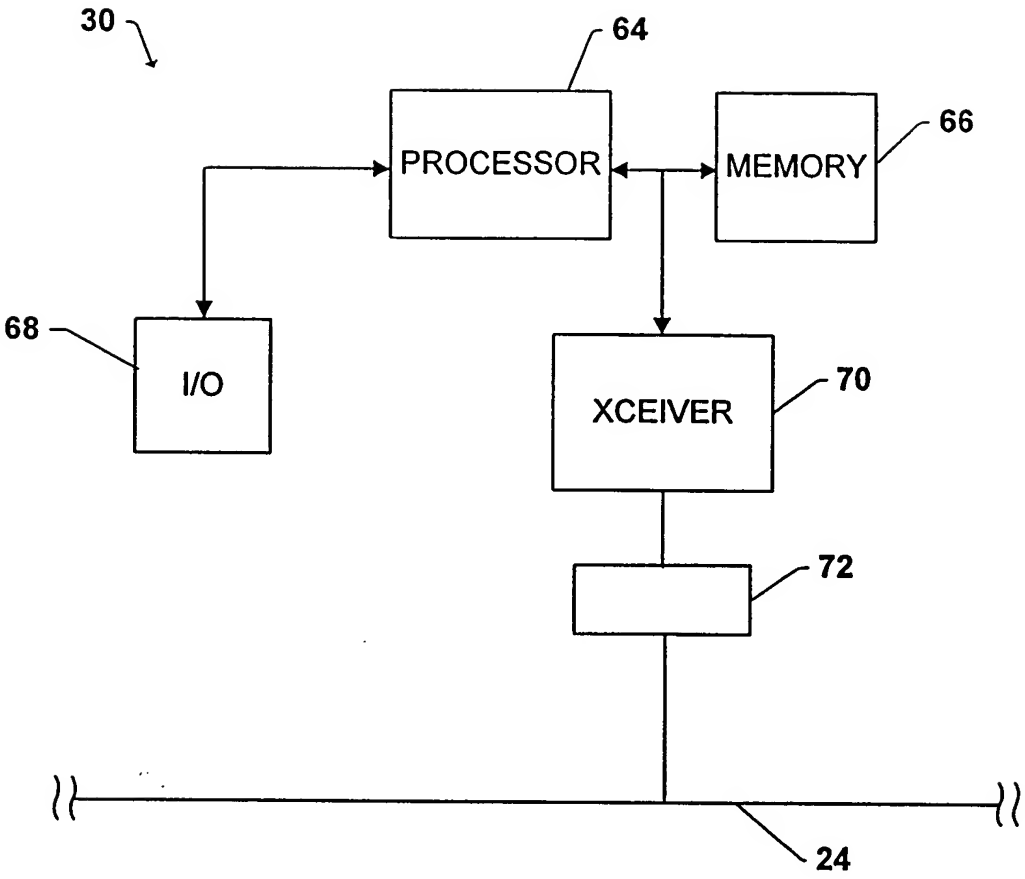


Fig. 3a

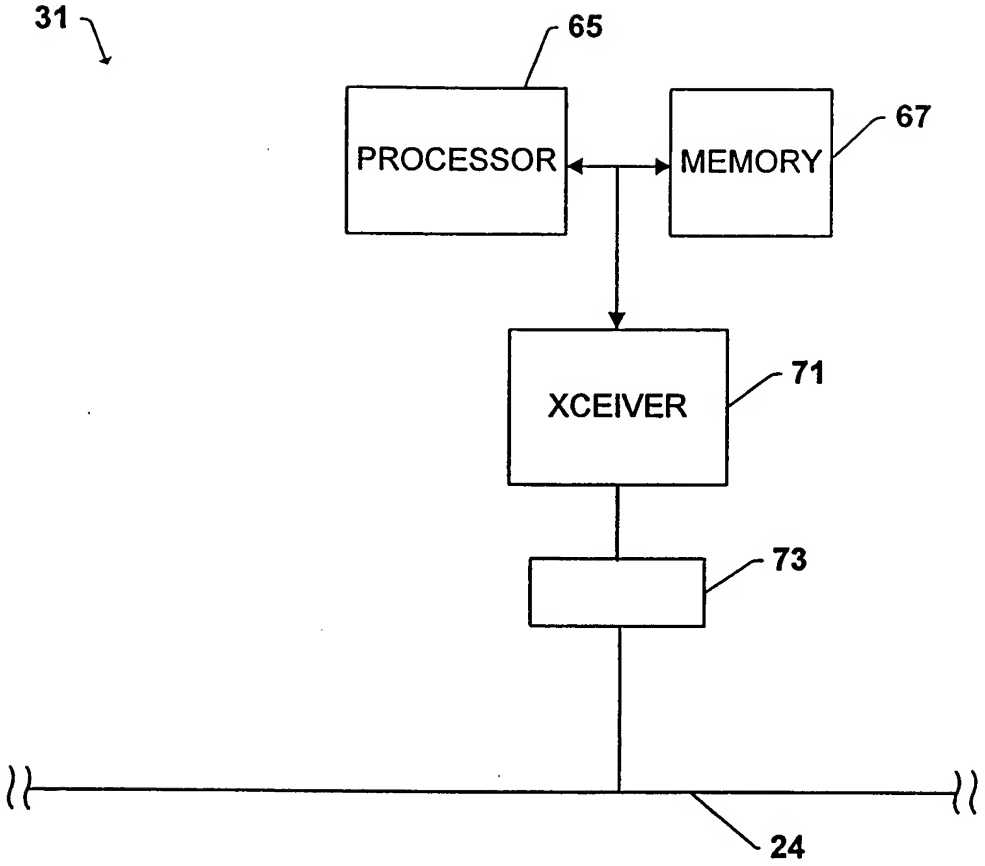


Fig. 3b

Bootptab Table:

Mobile Terminal Hardware Address	Internet Protocol (IP) Address	Boot File (Package Name)
Mobile Terminal 1	IP1	Package A
Mobile Terminal 2	IP2	Package B
Mobile Terminal 3	IP3	Package C
. . .	. . .	. . .
Mobile Terminal X	Ipx	Package X

Fig. 4

Package Definition Files:

Fig. 5a

Package Name	Version ID, Req. Memory, Mode	File Name	Mobile Ter. Path	FTP Path	Type	ROM/RAM

Fig. 5b

Package A	6.2, 200KB, replace	filename_A1 filename_A2 . . filename_An	mpath A1 mpath A2 . . mpath An	ftppath A1 ftppath A2 . . ftppath An	... ...	ROM RAM . . ROM

Fig. 5c

Package B	A3, 150KB, fail safe	filename_B1 filename_B2 . . filename_Bn	mpath B1 mpath B2 . . mpath Bn	ftppath B1 ftppath B2 . . ftppath Bn	... ...	RAM RAM . . ROM
...	...	...	...	...	...	...

Fig. 5d

Package Z	1.9, 320KB, replace	filename_Z1 filename_Z2 . . filename_Zn	mpath Z1 mpath Z2 . . mpath Zn	ftppath Z1 ftppath Z2 . . ftppath Zn	... ...	ROM ROM . . RAM

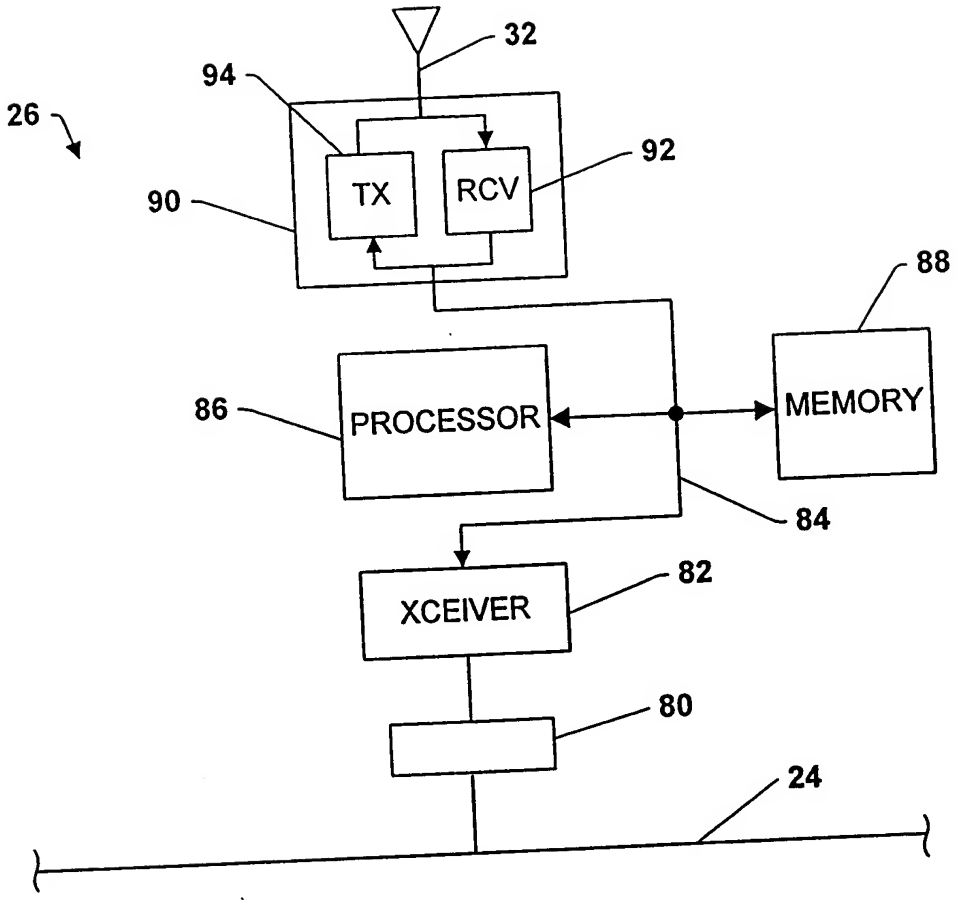
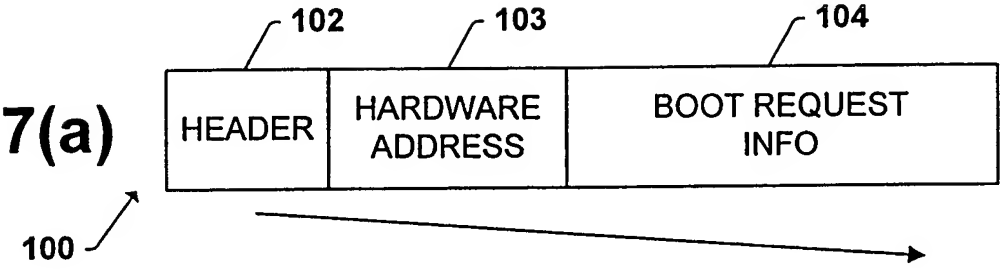


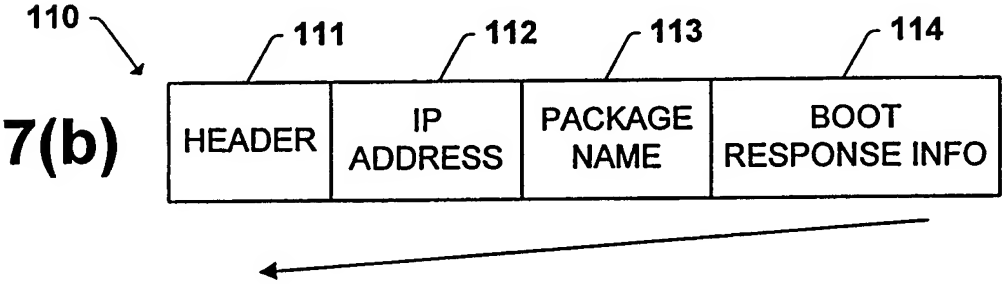
Fig. 6

Fig. 7(a)



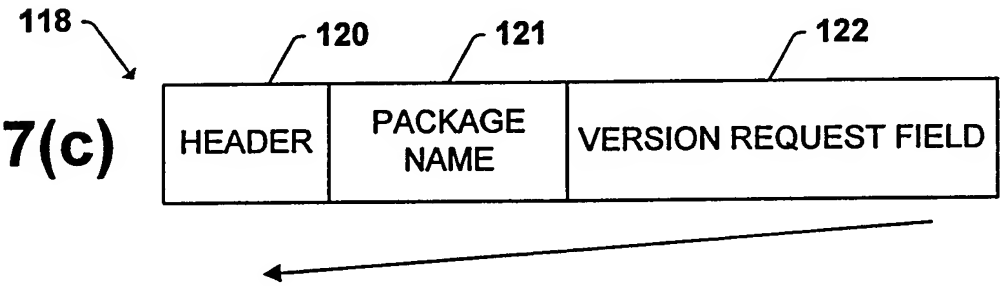
Bootp Request Packet

Fig. 7(b)



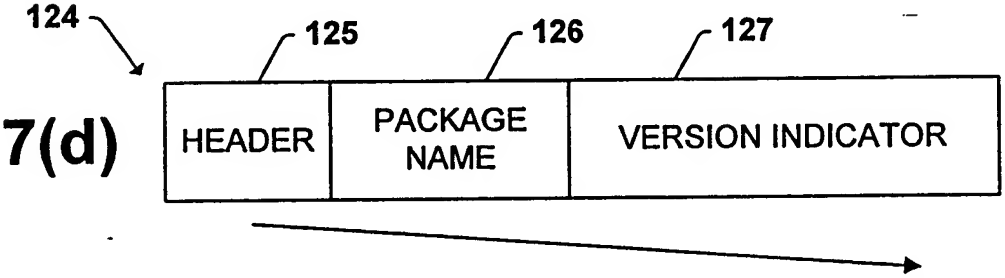
Bootp Response Packet

Fig. 7(c)



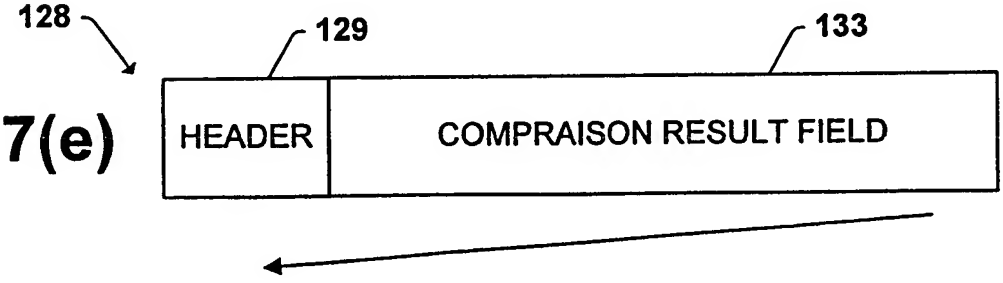
Version Request Packet

Fig. 7(d)



Version Response Packet

Fig. 7(e)



File Name Packet

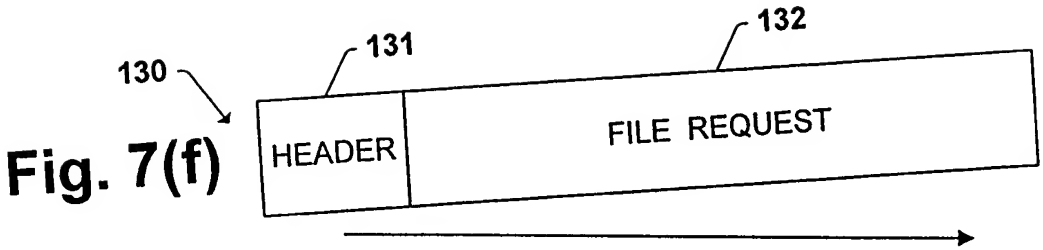


Fig. 7(f)

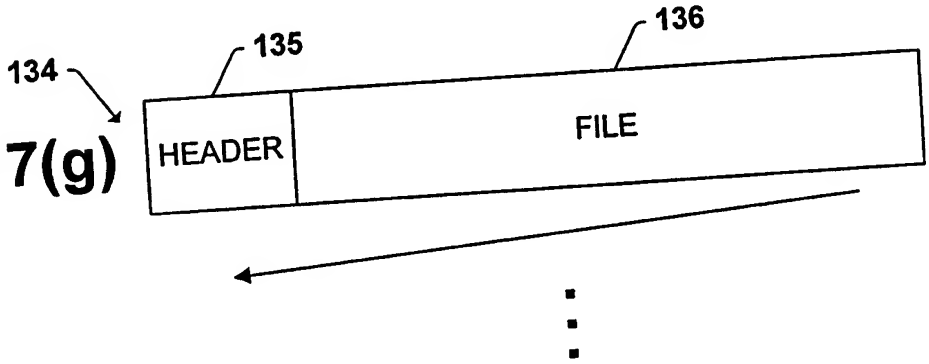


Fig. 7(g)

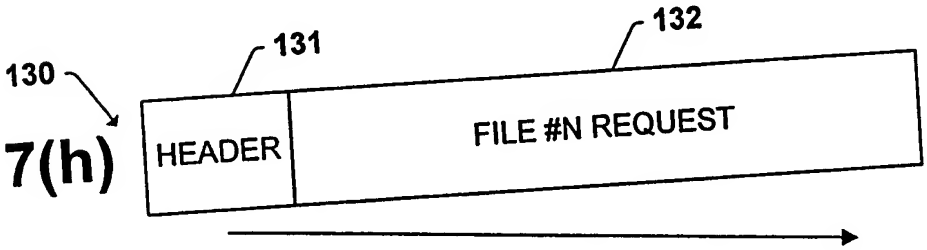


Fig. 7(h)

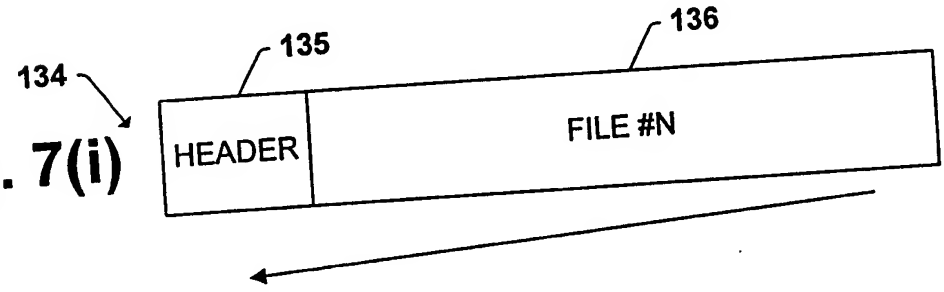


Fig. 7(i)

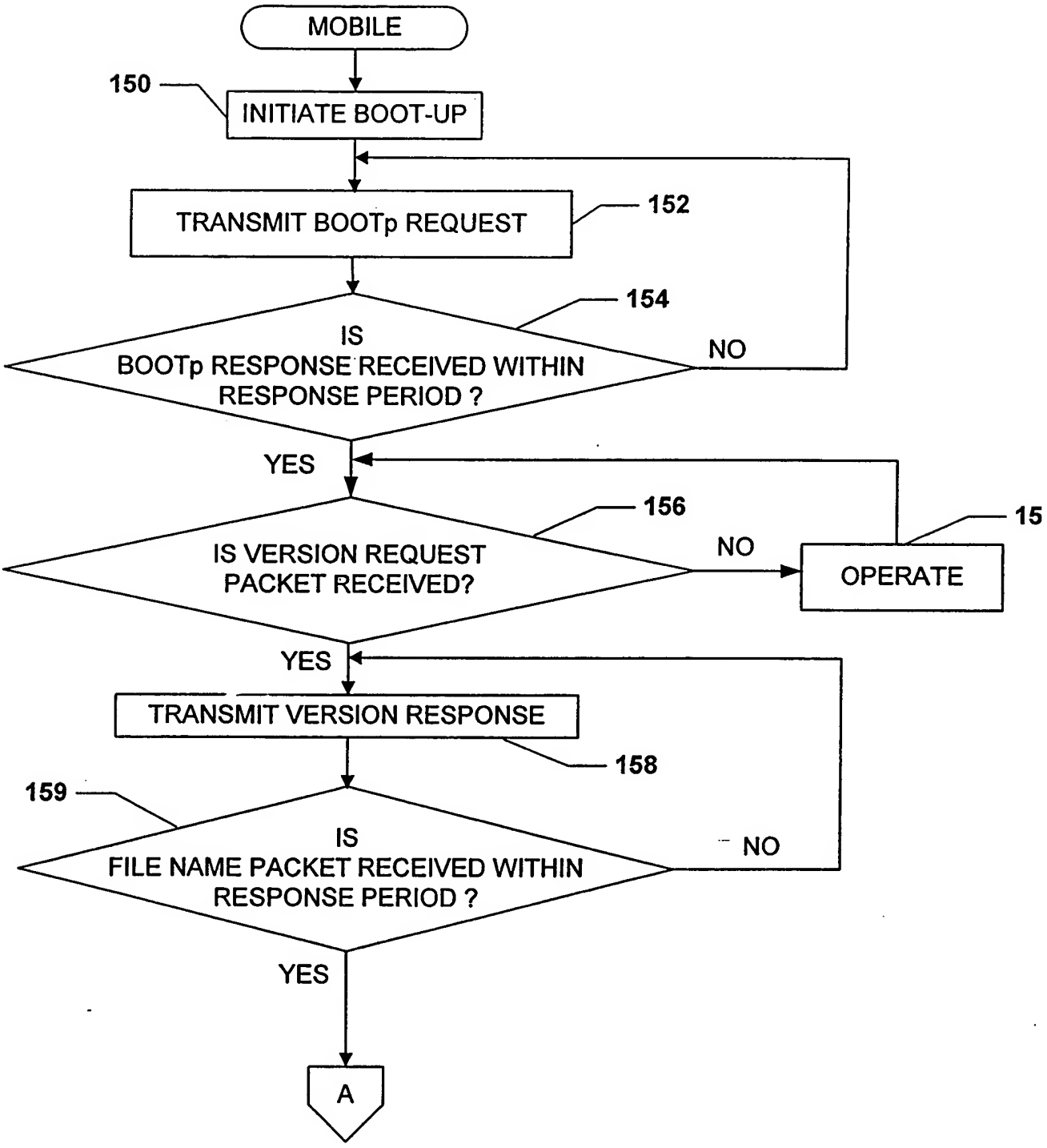


Fig. 8(a)

CONTINUED ON FIG.
8(b)

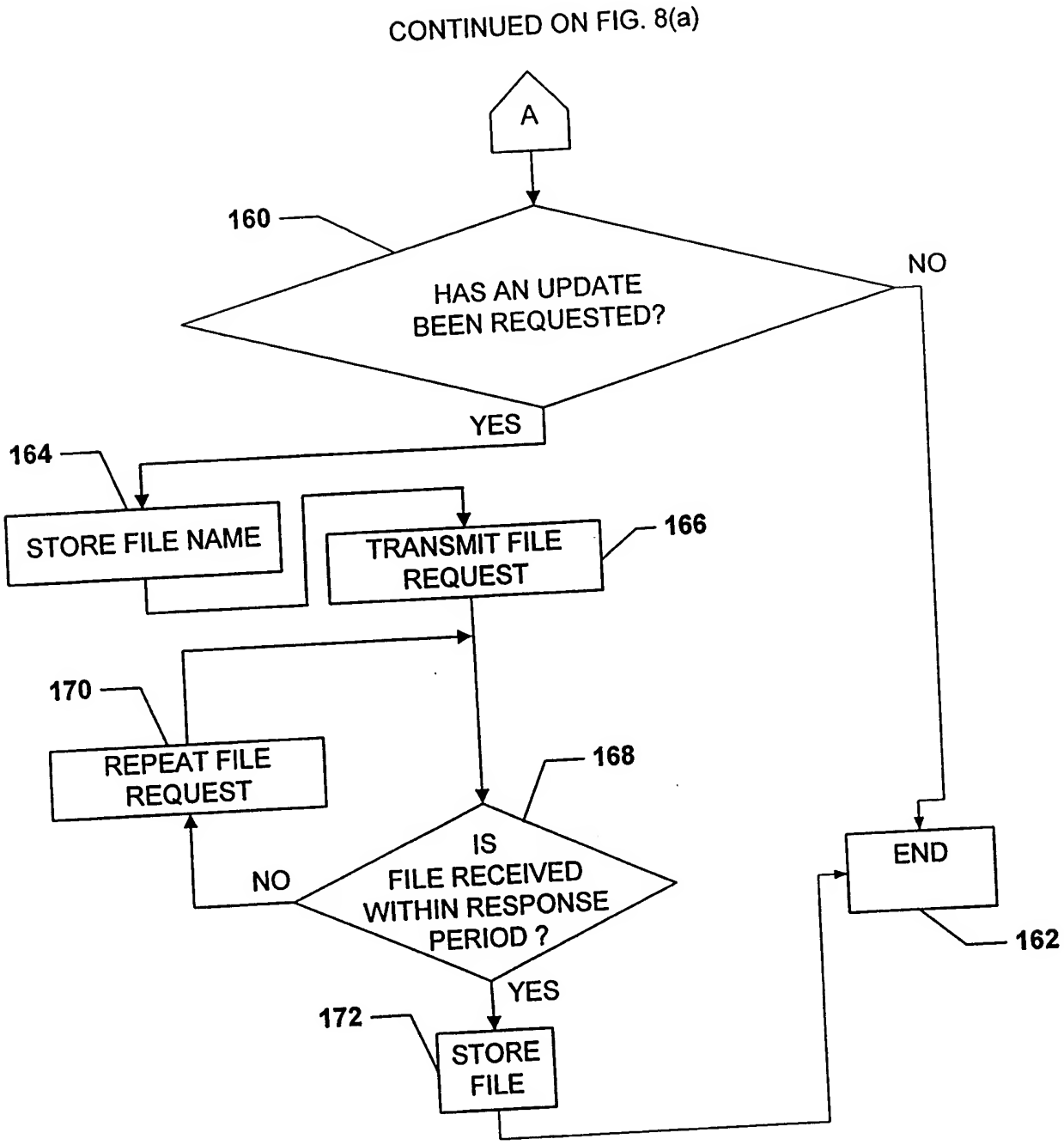

CONTINUED ON FIG. 8(a)
A
160
HAS AN UPDATE BEEN REQUESTED?
NO
YES
164
STORE FILE NAME
TRANSMIT FILE REQUEST
166
170
REPEAT FILE REQUEST
168
IS FILE RECEIVED WITHIN RESPONSE PERIOD ?
NO
YES
172
STORE FILE
END
162

Fig. 8(b)

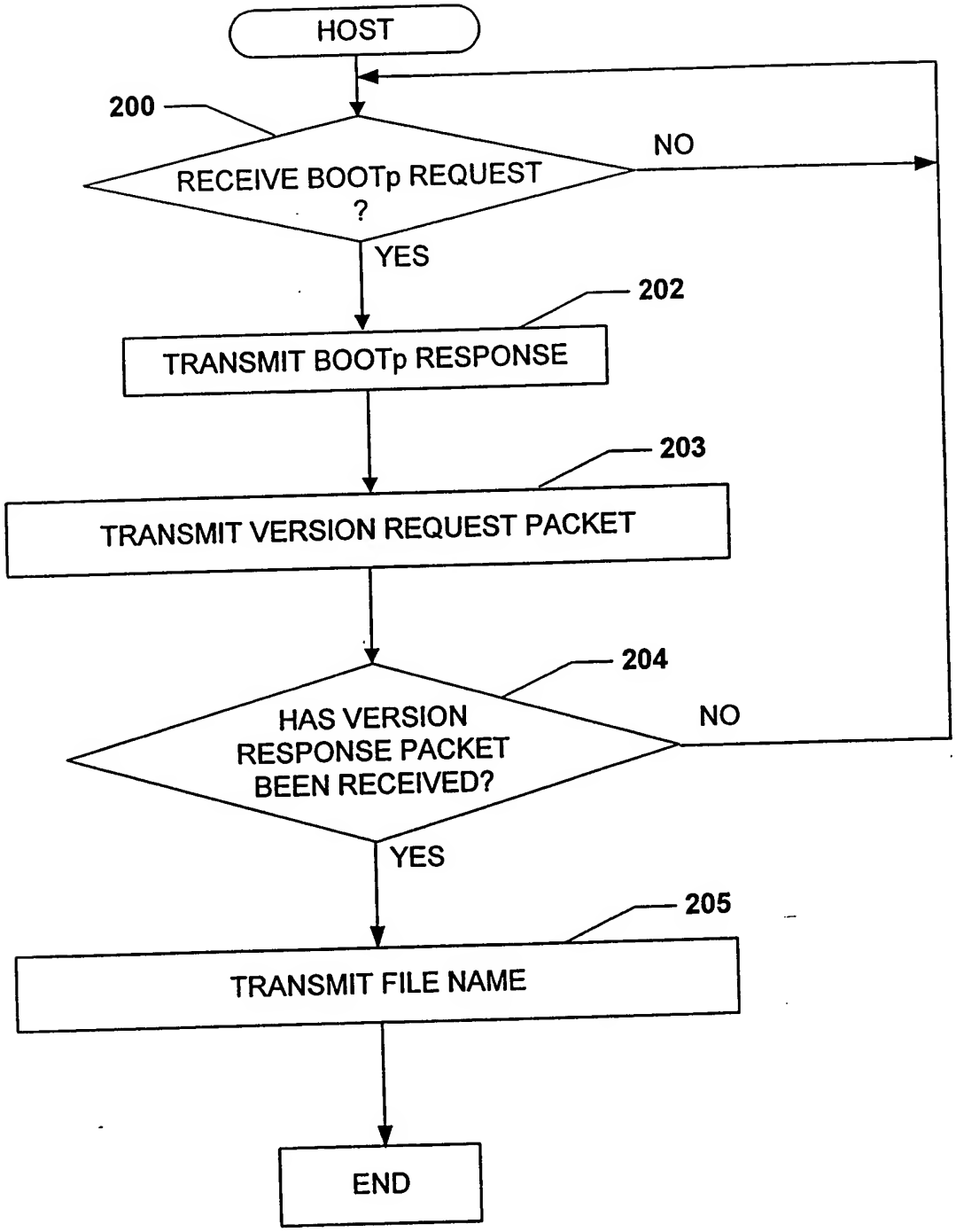

HOST
200
RECEIVE BOOTp REQUEST ?
NO
YES
202
TRANSMIT BOOTp RESPONSE
203
TRANSMIT VERSION REQUEST PACKET
204
HAS VERSION RESPONSE PACKET BEEN RECEIVED?
NO
YES
205
TRANSMIT FILE NAME
END

Fig. 9

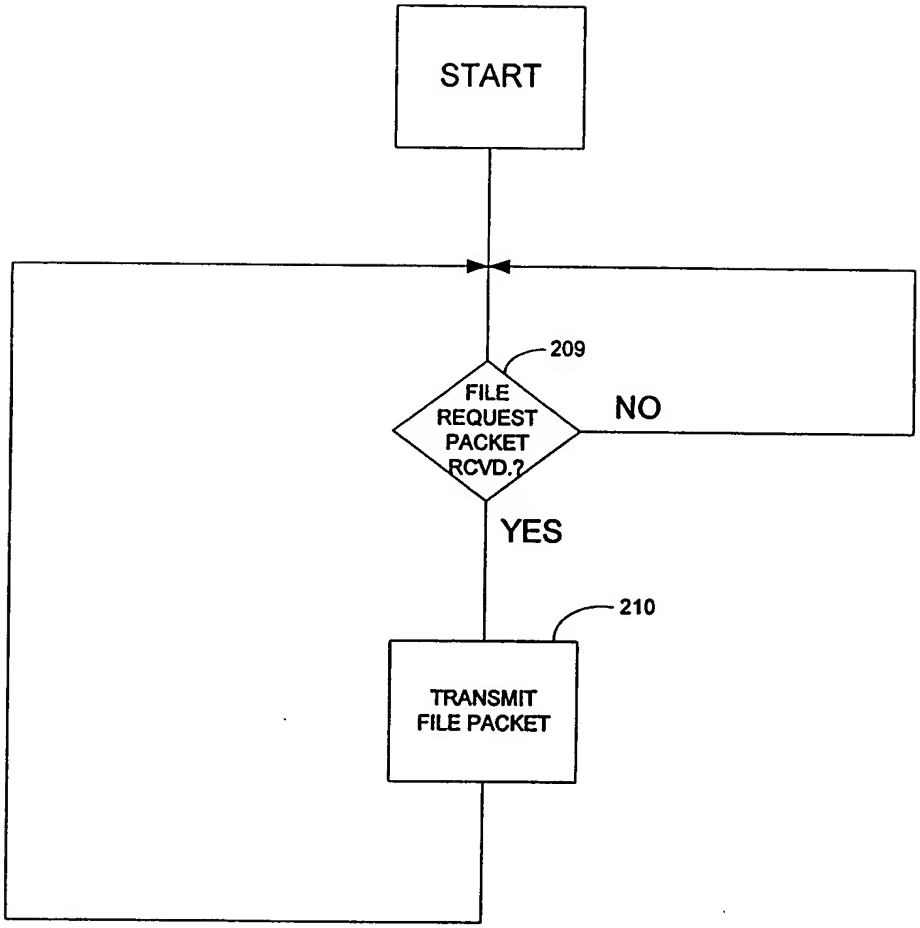

START
209
FILE REQUEST PACKET RCVD.?
NO
YES
210
TRANSMIT FILE PACKET

Fig. 10

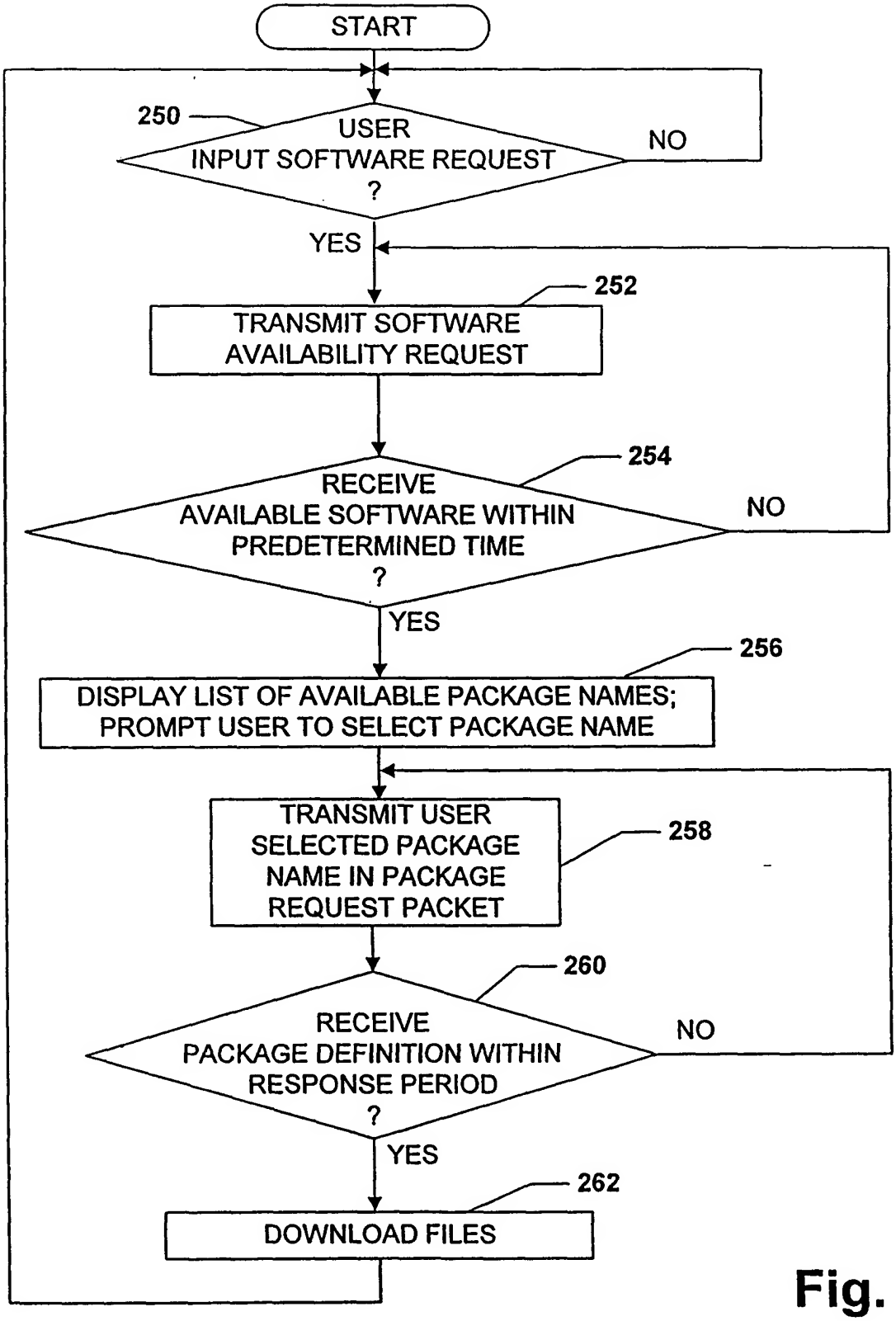

START
250
USER INPUT SOFTWARE REQUEST ?
NO
YES
252
TRANSMIT SOFTWARE AVAILABILITY REQUEST
254
RECEIVE AVAILABLE SOFTWARE WITHIN PREDETERMINED TIME ?
NO
YES
256
DISPLAY LIST OF AVAILABLE PACKAGE NAMES; PROMPT USER TO SELECT PACKAGE NAME
TRANSMIT USER SELECTED PACKAGE NAME IN PACKAGE REQUEST PACKET
258
260
RECEIVE PACKAGE DEFINITION WITHIN RESPONSE PERIOD ?
NO
YES
262
DOWNLOAD FILES

Fig. 11

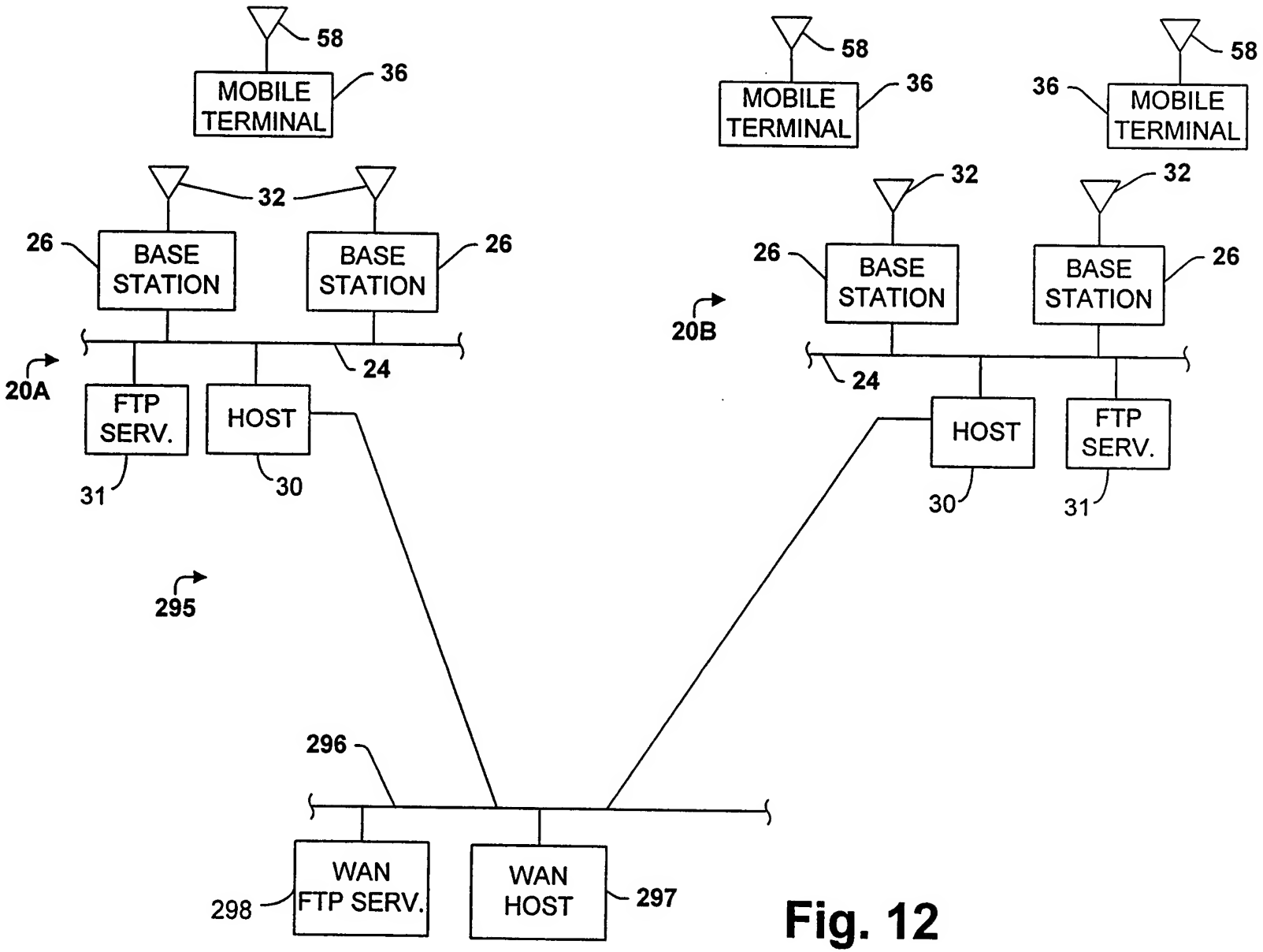

58
MOBILE TERMINAL
36
32
26
BASE STATION
BASE STATION
26
20A
24
FTP SERV.
HOST
31
30
295
296
WAN FTP SERV.
298
WAN HOST
297
58
MOBILE TERMINAL
36
58
36
MOBILE TERMINAL
32
32
26
BASE STATION
BASE STATION
26
20B
24
HOST
FTP SERV.
30
31

Fig. 12

Package Definition Files:

Fig. 13a

Package Name	Version ID, Req. Memory, Mode	File Name	Mobile Ter. Path	Host Path	Type	ROM/RAM

Fig. 13b

Package A	6.2, 200KB, replace	filename_A1 filename_A2 . . filename_An	mpath A1 mpath A2 . . mpath An	hpath A1 hpath A2 . . hpath An	... ...	ROM RAM . . ROM

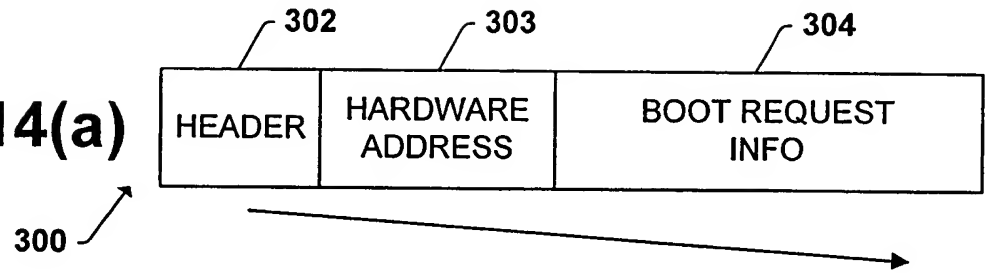
Fig. 13c

Package B	A3, 150KB, fail safe	filename_B1 filename_B2 . . filename_Bn	mpath B1 mpath B2 . . mpath Bn	hpath B1 hpath B2 . . hpath Bn	... ...	RAM RAM . . ROM
...	...	...	...	...	...	...

Fig. 13d

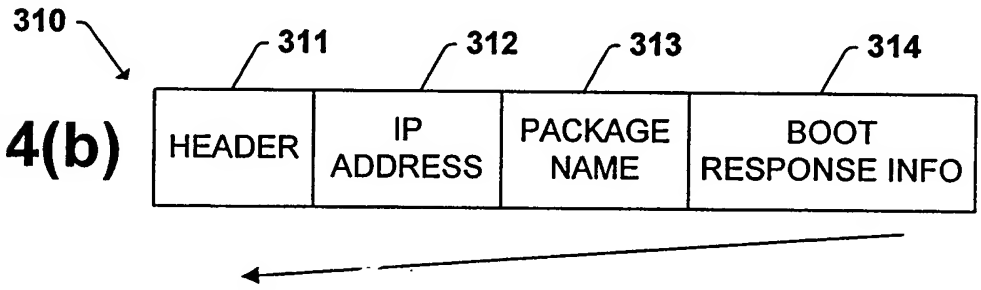
Package Z	1.9, 320KB, replace	filename_Z1 filename_Z2 . . filename_Zn	mpath Z1 mpath Z2 . . mpath Zn	hpath Z1 hpath Z2 . . hpath Zn	... ...	ROM ROM . . RAM

Fig. 14(a)



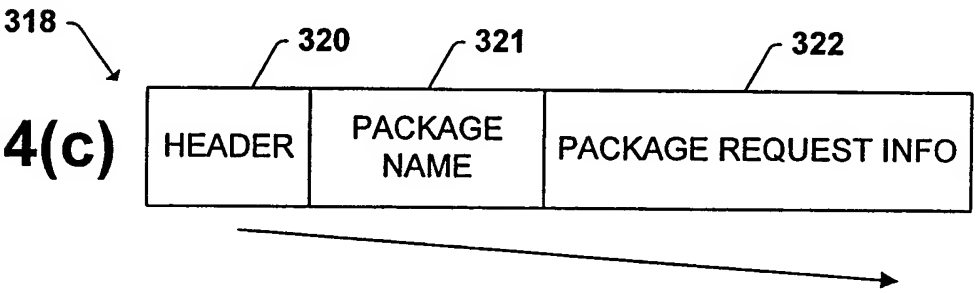
Bootp Request Packet

Fig. 14(b)



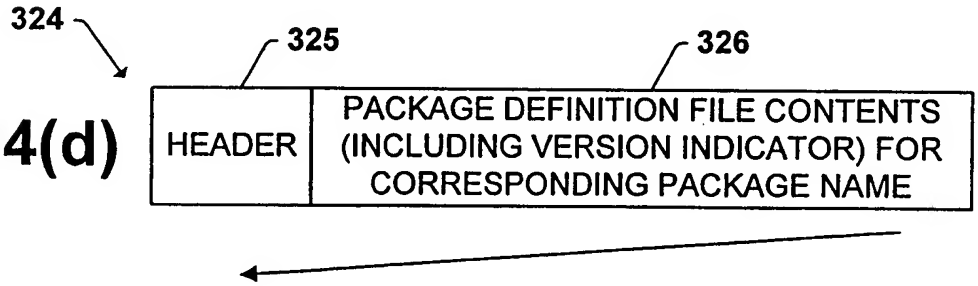
Bootp Response Packet

Fig. 14(c)



Package Request Packet

Fig. 14(d)



Package Definition Packet

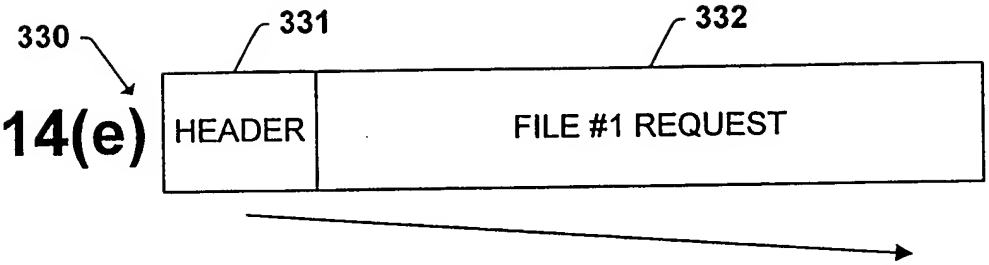


Fig. 14(e)

File #1 Request Packet

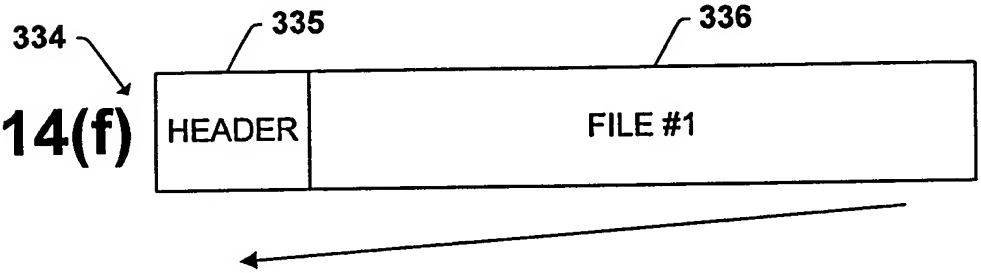


Fig. 14(f)

File #1 Packet

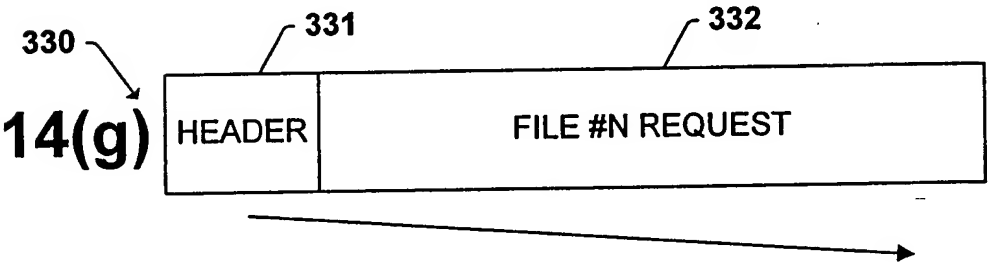


Fig. 14(g)

File #N Request

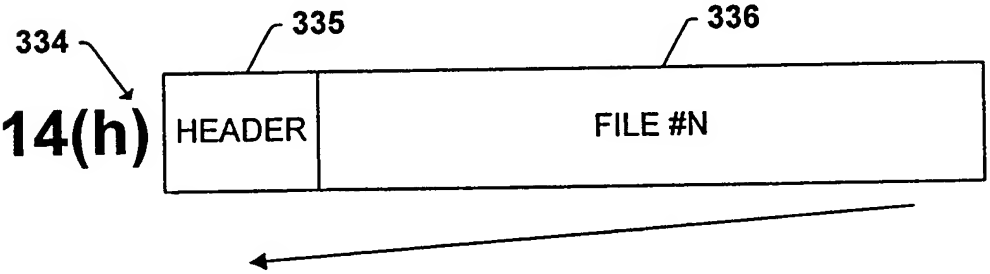


Fig. 14(h)

File #N Packet

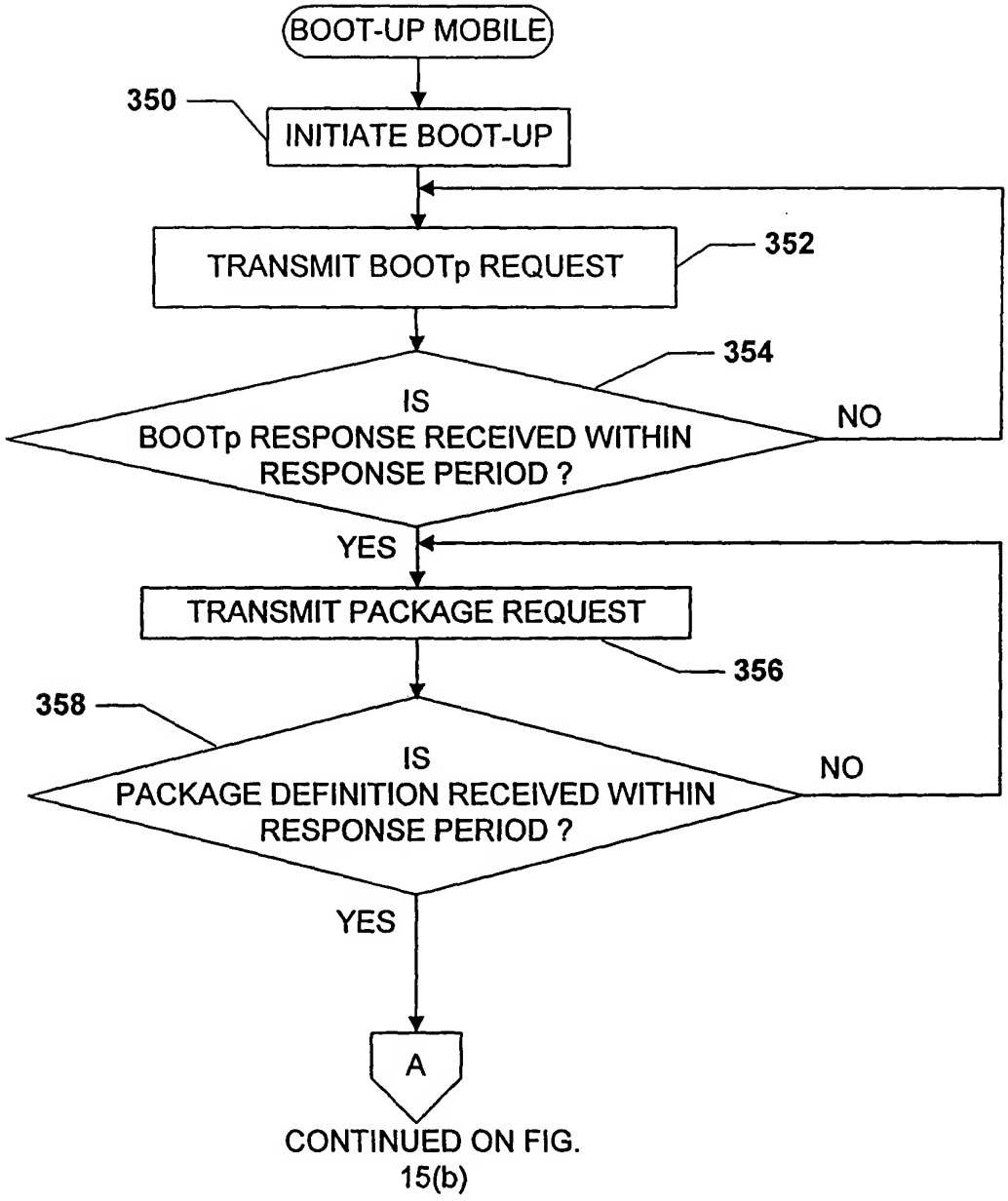

BOOT-UP MOBILE
350
INITIATE BOOT-UP
TRANSMIT BOOTp REQUEST
352
354
IS
BOOTp RESPONSE RECEIVED WITHIN
RESPONSE PERIOD ?
NO
YES
TRANSMIT PACKAGE REQUEST
356
358
IS
PACKAGE DEFINITION RECEIVED WITHIN
RESPONSE PERIOD ?
NO
YES
A
CONTINUED ON FIG.
15(b)

Fig.
15(a)

CONTINUED ON FIG. 15(a)

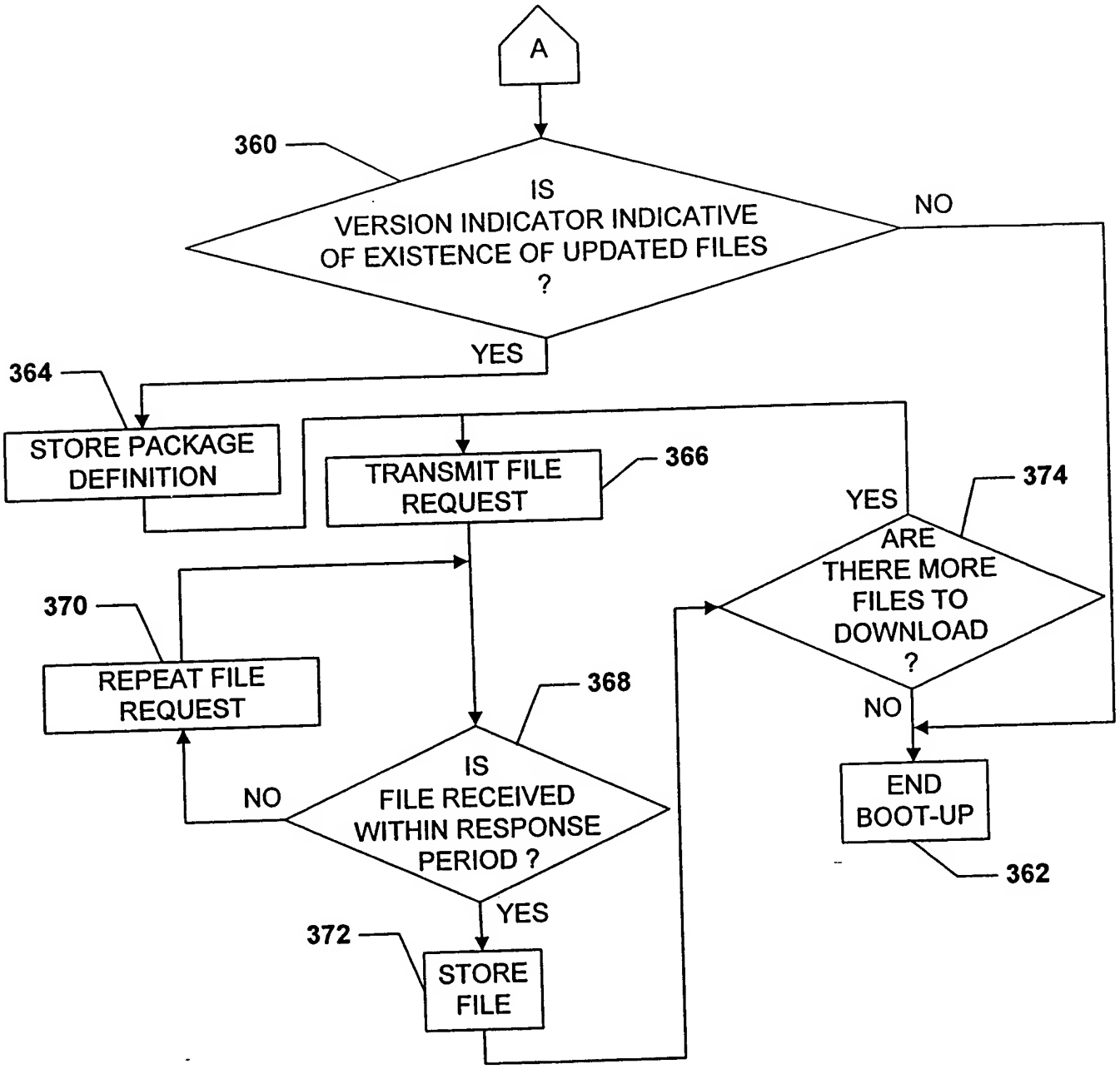


Fig. 15(b)

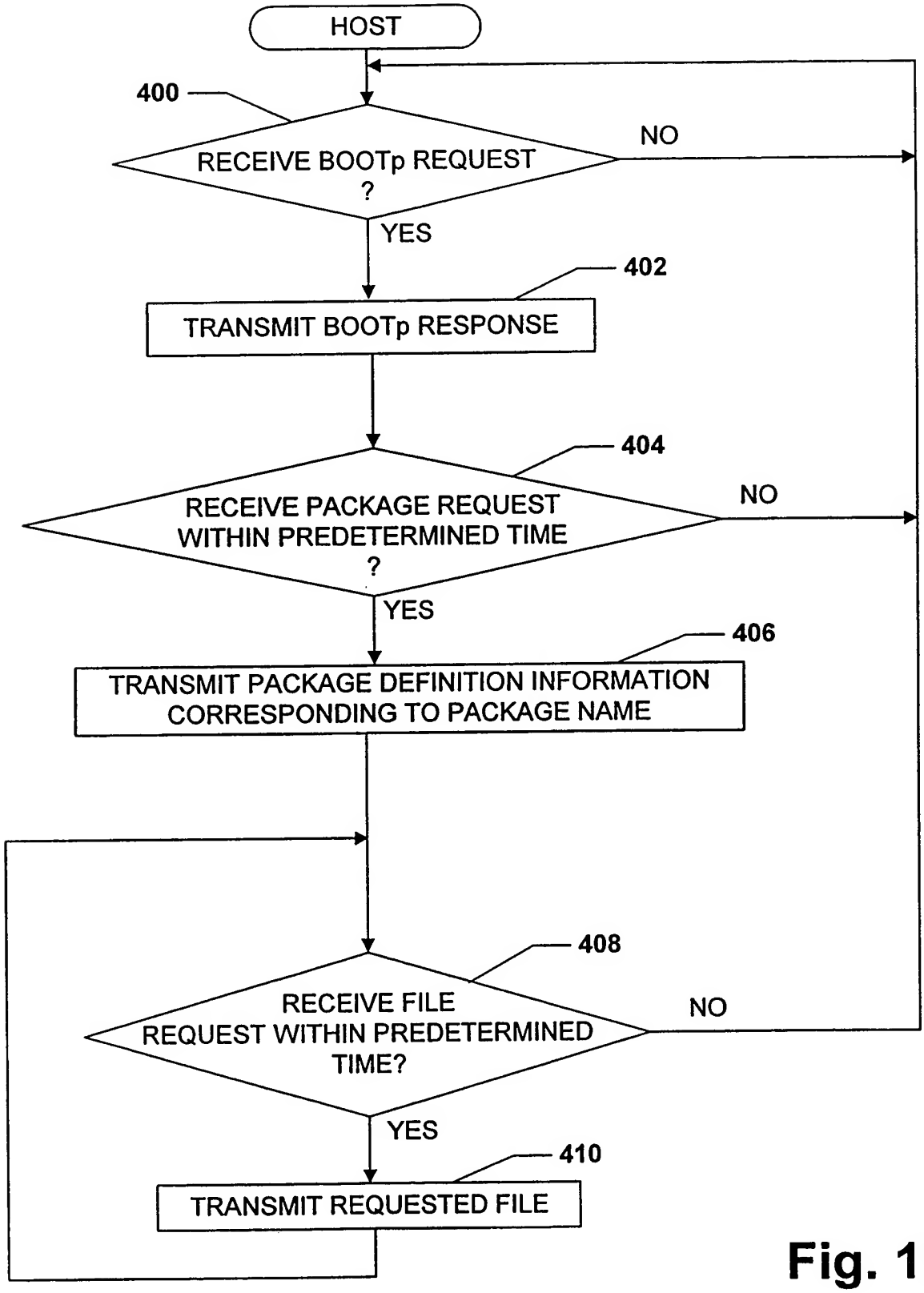

HOST
400
RECEIVE BOOTp REQUEST ?
NO
YES
402
TRANSMIT BOOTp RESPONSE
404
RECEIVE PACKAGE REQUEST WITHIN PREDETERMINED TIME ?
NO
YES
406
TRANSMIT PACKAGE DEFINITION INFORMATION CORRESPONDING TO PACKAGE NAME
408
RECEIVE FILE REQUEST WITHIN PREDETERMINED TIME?
NO
YES
410
TRANSMIT REQUESTED FILE

Fig. 16